

REMARKS

Claims 7-12 are currently pending in this application. Claims 7 and 11 are independent. Claims 7 and 11 have been amended. No new matter has been added.

Claim Rejections under 35 U.S.C. §103

Claims 7, 8, 11 and 12 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Admitted Prior Art and Yilmaz et al., (USP 5,304,831). Applicants respectfully traverse.

Claim 7 recites, *inter alia*:

a contact electrode provided outside of the semiconductor substrate connecting with ***the emitter region and the field region,***
the field region contacts with the contact electrode at a corner portion of contacting portion of the semiconductor substrate to the contact electrode, and
the emitter region contacts with the contact electrode at the other portion of the contacting portion.

Neither Yilmaz nor the alleged Admitted Prior art discloses or suggests a contact electrode contacting the field region and emitter region as highlighted above.

As illustrated in FIG. 17A of Yilmaz, the source electrode 226 does not disclose or suggest an emitter region, a field region or a contact electrode as recited in claim 7 and illustrated in Applicants' FIGS. 1, 3, or 13. Yilmaz discloses a source contacting region having an octagonal ring shape to insure that the channel 144 has a near constant width.

Applicants respectfully submit that it would not be obvious to one of skill in the art to modify the shape alleged Admitted Prior Art emitter contact region as shown in Yilmaz for the purposes of insuring the channel dimensions since Applicants' channel is from the emitter electrode 909 to collector electrode 910 and has a constant dimension regardless of the shape of the contact electrode or contacting portion of the emitter region. Accordingly, the channel dimensions of the claimed embodiment do not need to be maintained.

Furthermore, Applicants configuration provides for a lesser current concentration

at the corner portion of the square contact opening while electric current flows from the field region to the contact electrode.

For at least these reasons, claim 7 is allowable. Additionally, claim 8 that depends from claim 7 is allowable.

Claim 11 recites, *inter alia*:

a contact electrode provided outside of the semiconductor substrate conducting with the emitter region, ***the contact electrode having a corner portion,***
a corner portion of a contacting portion of the emitter region ***mating with the corner portion of the contact electrode***

Neither Yilmaz nor the alleged Admitted Prior art discloses or suggests a corner portion of a contacting portion of the emitter region mating with the corner portion of the contact electrode as recited in claim 11.

In rejecting claim 11, the Office asserts that p – tub 160 of Yilmaz meets the claimed corner portion of a contacting portion of the emitter region having an impurity concentration that is lower at the corner portion of the contacting portion than in other portions of the contacting portion. This seems to suggest that the Office is equating the p – tub 160 of Yilmaz to the claimed corner. If this is the case, Applicants respectfully submit that the p – tub 160 of Yilmaz extends around the octagonal device adjacent to channel 144 and that the p – tub 160 cannot be the corner as recited in claim 11.

Furthermore, in the rejection of claim 7, the Office asserts that elements 148a-d of Yilmaz are the claimed corner regions. Applicants respectfully submit that elements 148a-d and the p – tub 160 of Yilmaz cannot both be the claimed corners. Interpreting Yilmaz in such a manner is improper.

Applicants respectfully submit that neither the alleged Admitted Prior Art nor Yilmaz, either individually or in combination, disclose or suggest all of the features recited in independent claim 11. Claim 12 depends from claim 11. Based on the above remarks, claims 11 and 12 are allowable. Applicants request withdrawal of the rejection of claims 7, 8, 11 and 12.

Claims 9 and 10 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over the alleged Admitted Prior Art and Yilmaz et al., as applied to Claim 7 above, and further in view of Kunori et al., (USP 6,459,128). Applicants respectfully traverse.

Kunori does not overcome, nor is it asserted to overcome, the deficiencies of Yilmaz and the alleged Admitted Prior Art identified above with respect to claims 7 and 8. None of Yilmaz, the alleged Admitted Prior Art or Kunori, either individually or in combination, discloses or suggests all of the features recited in independent claim 7. Claims 9 and 10 are allowable. For the above reasons, Applicants request withdrawal of the rejection of claims 9 and 10.

Conclusion

In light of the above discussion, Applicant respectfully submits that the present application is in all aspects in allowable condition, and earnestly solicits favorable reconsideration and early issuance of a Notice of Allowance.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. 1.16 or 1.17 to Kenyon & Kenyon Deposit Account No. 11-0600. The Examiner is invited to contact the undersigned at (202) 220-4254 to discuss any matter concerning this application.

Respectfully submitted,

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